HP Application Lifecycle Management (ALM) Knowledge Share

Maheshwar Salendra
Date: 12/02/2012
AGENDA:

• Introduction to ALM
• ALM Functionality by Edition
• ALM Home page
• Side bars:
  ❖ Management
  ❖ Requirements
  ❖ Testing
  ❖ Defects
  ❖ Dashboard

• Introduction to Sprinter
• Sprinter Functionality
Introduction to ALM

- ALM is the new Test Management Tool which was released by HP in Nov 2010 and now it is the widely used tool in Organizations. It is an advanced version of Quality Center and generally considered as QC 11.0.

- ALM provides a system control over the process by organizing and tracking application releases enabling you to align your business priorities and quality expectations with your project requirements, tests, and defects.

- It also allows you to share defects across projects, reducing risk by helping developers find, prioritize, and resolve defects sooner. A centralized defect repository also enables reporting of aggregated defect status and trends across projects.

- ALM offers integration with HP testing tools (for example, QuickTest Professional and LoadRunner) as well as third-party and custom testing tools, and requirement and configuration management tools. ALM communicates with the testing tool of your choice, providing you with a complete solution to fully automated application testing.
ALM Functionality by Edition

HP Application Life Cycle Management (ALM) is available in three editions which provide subsets of ALM functionality –

• HP Quality Center Starter Edition
• HP Quality Center Enterprise Edition
• HP ALM Performance Center Edition

<table>
<thead>
<tr>
<th>HP ALM Edition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ALM</td>
<td>Complete HP ALM functionality, providing core functionality for managing the Application Lifecycle and scalable Quality Management for mature organizations and Centers of Excellence (CoE) involved with managing enterprise releases.</td>
</tr>
<tr>
<td>HP Quality Center Starter Edition</td>
<td>For quality management teams managing small releases.</td>
</tr>
<tr>
<td>HP Quality Center Enterprise Edition</td>
<td>For quality management teams managing medium to large releases.</td>
</tr>
<tr>
<td>HP ALM Performance Center Edition</td>
<td>For managing all aspects of large-scale performance testing projects.</td>
</tr>
</tbody>
</table>
The following table indicates the availability of ALM functionality according to editions. Further information on each function is provided below.

<table>
<thead>
<tr>
<th>Functionality</th>
<th>HP ALM</th>
<th>HP Quality Center Starter Edition</th>
<th>HP Quality Center Enterprise Edition</th>
<th>HP ALM Performance Center Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensing</td>
<td>✓</td>
<td>✓ partial</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Modules</td>
<td>✓</td>
<td>✓ some exclusions</td>
<td>✓</td>
<td>✓ some exclusions</td>
</tr>
<tr>
<td>Point and Click Installation</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Release Management</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Project Planning and Tracking (PPT) Releases</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Multiple Requirement Types</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Requirement to Requirement Traceability</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Functionality</td>
<td>HP ALM</td>
<td>HP Quality Center Starter Edition</td>
<td>HP Quality Center Enterprise Edition</td>
<td>HP ALM Performance Center Edition</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------</td>
<td>-----------------------------------</td>
<td>-------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Versioning</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>single entity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing Requirements and Tests</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Sharing Defects</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Cross Project Customization</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Cross Project Reporting</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>partial</td>
</tr>
<tr>
<td>Excel Reporting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Business Process Testing</td>
<td>✓</td>
<td>✓</td>
<td>up to five</td>
<td>✗</td>
</tr>
<tr>
<td>Extra Options</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Upgrading Editions</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Functionality</td>
<td>HP ALM</td>
<td>HP Quality Center Starter Edition</td>
<td>HP Quality Center Enterprise Edition</td>
<td>HP ALM Performance Center Edition</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------</td>
<td>-----------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Risk-based Quality Management</td>
<td>✔️</td>
<td>✗</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Business Models Module</td>
<td>✔️</td>
<td>✗</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
<td>Test Resources</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️ partial</td>
</tr>
<tr>
<td>HP Sprinter</td>
<td>✔️</td>
<td>✗</td>
<td>✔️</td>
<td>✗</td>
</tr>
</tbody>
</table>
Management

• Most applications require testing on multiple hardware platforms, multiple configurations (computers, operating systems, and browsers), and multiple application versions.

• Managing all aspects of an application release can be time-consuming and difficult. You begin the application management process by defining releases.

• HP Application Lifecycle Management (ALM) enables you to organize and track your upcoming releases by defining releases and cycles.

• In the Libraries module, you define a hierarchical libraries tree to create and manage your libraries.
Management – Sidebar:

Note: Release/Libraries Module is not available in Quality Center Starter Edition

1. It has two sub-tabs:
   - **Releases**: A release represents a group of changes in one or more applications that will be available for distribution at the same time. Each release can contain a number of cycles. A cycle is a set of development and quality assurance efforts performed to achieve a common goal based on the release timeline. Both releases and cycles have defined start and end dates.
**Management – Sidebar:**

- **Libraries**: A library represents a set of entities in a project and the relationships between them. The entities in a library can include requirements, tests, test resources, and business components. After you create a library, you can create a baseline to keep track of changes made to your project over time. A baseline is a snapshot of the library at a specific point in time. You can compare baselines at all stages of the application development lifecycle.
Requirements

Requirements – Sidebar:

1. It has two tabs:
   - **Requirements**: The requirements tree is a graphical representation of your requirements specification, displaying the hierarchical relationship between different requirements. The tree includes different groups of requirements based either on requirement type or functional area. For each requirement group, you create a list of detailed requirements in the requirements tree. Each requirement in the tree is described in detail and can include any relevant links and attachments. After creating a requirements tree, the requirements can be used as a basis for defining tests in your test plan tree.
ALM

Requirements – Sidebar:

**Business Models**: The HP Application Lifecycle Management (ALM) Business Models module addresses the need for a stronger connection between business process modeling, quality assurance management, and requirement definitions. The module integrates business process models into the application lifecycle.

Integrating business process models into ALM involves importing business process models into ALM, and linking requirements and tests to models, activities and end-to-end business flows. After executing tests, you can display quality status views on the business process model level.

**Note**: To work with business process models in ALM, you must first have created models in standard BPMN or EPC modeling tools, and exported them to files.

ALM supports the following model and file formats:

- BPMN 1.1 models exported to XPDL 2.0 files
- EPC 7.1 models exported to AML files (.xml extension)
Testing

Testing – Sidebar:

It has 4 sub tabs:

Test Plan: After you add a test to the test plan tree, you build the test by defining design steps. After you define the test steps, decide whether to perform the test manually or to automate it. For manual tests you define steps, execute them on your application, and record the results of each step. Manual tests include usability tests, onetime tests, tests that need to be run immediately, tests requiring knowledge of the application, and tests without predictable results.
Testing – Sidebar:

**Test Lab:** A test set contains a subset of the tests in an HP Application Lifecycle Management (ALM) project designed to achieve specific test goals. As your application changes, you run the manual and automated tests in your project in order to locate defects and assess quality.

You can run ALM tests manually or automatically:

**Running Tests Manually**

You can run tests manually in ALM using:

HP Sprinter: Sprinter provides enhanced functionality to assist you in the manual testing process. **ALM Editions:** Sprinter functionality is not available with Quality Center Starter Edition and Performance Center Edition.

Manual Runner: If you are not working with Sprinter, you can run tests manually using Manual Runner.

You can run manual and automated tests manually in ALM. When you run a test manually, you follow the test steps and perform operations on the application under test. You pass or fail each step, depending on whether the actual application results match the expected output.
Sprinter provides advanced functionality and tools to make manual testing more efficient and effective. Sprinter enables you to accomplish these tasks without disrupting your test flow. With Sprinter, you can also perform many of the repetitive and tedious tasks of manual testing automatically. Sprinter includes many tools to help you detect and submit defects. These features ensure that you can perform all the tasks necessary for your manual test with minimum interruptions to your testing work.

With Sprinter you can:

• User-friendly display
• Move easily between tests in your run
• Edit actual values of parameters during your test run
• Multiple views
• Actual value including screen captures
• Create and annotate screen captures of your application
• Record and run macros on your test application
• Inject data
• Replicate your actions on another computer
Sprinter - Steps:

When we run manual steps through sprinter it arranges all the necessary tools along the broader of AUT page and develops user-friendly environment for testing. Sprinter accelerates manual testing process. We can execute each step directly by implementing on the application and update the actual result.
Sprinter – Steps(Sub-titles):

- Sprinter enables user to have test steps in sub-titles format. It provides a provision to execute the test steps, update actual results and raise defects upon failure.
Sprinter – Data Injection:

- Using Sprinter we can inject test data into the application by matching column names with the field names with the application.
- We can inject multi set of data directly into the application with corresponding matching fields at one go.
- Select the row which you want to inject and click on the inject icon which directly injects the data into the corresponding fields.
Sign In

Enter Online ID:
[]: 32 characters
[ ] Save this Online ID
[ ] New

Not using Online Banking?
[ ] New User
[ ] For Online Banking
[ ] Learn more
[ ] About Online Banking
[ ] Service Agreement
[ ] Go to Online Banking for
[ ] a web browser that works

Secure Area

Home - Locations - Contact Us - Help - Sign in - Site Map
Personal Finance - Small Business - Corporate & Institutional
About the Bank - In the Community - Finance Tools & Planning - Privacy & Security

Bank of America, N.A. Member FDIC. Equal Housing Lender.
©2012 Bank of America Corporation. All rights reserved.

boa34567

Enter Online ID:
boa34567
Sprinter – Macros:

This is an excellent feature in ALM which reduces 80% of the human effort in execution just with one click. Sprinter provides a feature to record Marcos for all the manual execution activity which you are doing. When we run the macro it replicates the activity which we have done previously and can be widely used for regression.
Sprinter – Run Control:

This sidebar enables you to set the status of your test and move between the different tests in the list of tests you are running. It enables you to record the user actions performed while executing tests, display test details and has a provision to stop the test.
Sprinter – Tools:

Sprinter provides tools that enable you to detect defects in your application and report them to HP ALM. These tools allow you to detect and report defects without disrupting the test flow.

Sprinter defect detecting tools enable you to examine the display of the application being tested, for defects such as alignment, spacing, and color usage. You can also annotate a screen capture to assist in highlighting and communicating defects.

This sidebar enables you to add graphic annotations to a screen capture of your application. It also enables you to examine the characteristics of the user interface elements in your application and detect defects in their layout and color.
Sprinter – Tools:

Sprinter provides a variety of tools to enable you to detect defects in the display of your application.

- Ruler Tool: Sprinter provides a variety of tools to enable you to detect defects in the display of your application.
- Guides Tool: The Guides tool enables you to examine the alignment of user interface elements in the application.
- Color picker Tool: The Color Picker tool enables you to detect the color of any point on the screen and to compare the colors of two or more points on the screen. This allows you to determine if colors are used consistently in the application being tested.
**Sprinter – Tools:**

**Smart Defect.** Enables you to submit a defect to HP ALM.

Drop-down options:

- **Smart Defect.** (Default) Opens the Smart Defect Settings Dialog Box, enabling you to include automatically generated defect scenario information in your defect description.

- **New Defect.** Opens the HP ALM New Defect dialog box, enabling you to manually submit a defect to HP ALM.

- **Add Defect Reminder.** Opens the Defect Reminder Dialog Box.
Sprinter – Results:

Sprinter's run results provide a summary of your run. In the run results you can:

- View a summary of your run including basic run information, the number of user actions, submitted defects, defect reminders and comments, and a breakdown of the steps by status.
- View details of all the steps in your run including actual results and any attached screen captures or other attachments.
- View details of all the defects you submitted during your run. You can open the HP ALM Defect Details dialog box from the run results to review the information in your defects.
- View details of the defect reminders you created during your run. You can submit defects to HP ALM based on these defect reminders.
- View details of all the user actions you performed during your run.
- Open the Storyboard, enabling you to view detailed information for each user action you performed in your run.
Business Components:

The Business Components module enables you to create and manage business components in HP Application Lifecycle Management (ALM). These components provide the basis for Business Process Testing.

Business components are testing units that perform specific tasks in a business process. Manual business components are indicated by an M symbol on the component icon.
Dashboard:

HP Application Lifecycle Management (ALM) provides you with analysis tools enabling you to analyze and display ALM data in various formats.

Dashboard Modules

In the Dashboard modules, you analyze ALM data by creating graphs, standard reports, and Excel reports. You can also create dashboard pages that display multiple graphs side-by-side.

Dashboard contains two modules: The Analysis View module and the Dashboard View module.

The Analysis View module contains the analysis tree in which you organize all of your analysis items. Analysis items can be any of the following analysis types: graphs, project reports, Excel reports, and standard reports.

The Dashboard View module contains the dashboard tree in which you organize dashboard pages. In dashboard pages you arrange multiple graphs that you created in the analysis tree, and display them in a single view.
Backend Project Schema:

There are two ways in which the data is stored in Quality center

1. SQL server
2. Oracle

For each and every project, a schema is developed automatically which represents as the given schematic diagram. In general, data is stored in Tables which has been already created when project is created. When ever user updates or enters the data in the front end of QC it directly gets stored in the corresponding tables. For Example:

- All the requirements related information is stored in the parent REQ table
- All the Test plan related information is stored in the parent TEST table
- All the Test Lab related information is stored in the parent TESTCYCL Table
- All the Defects related information is stored in the parent BUG table